



JON M. HUNTSMAN, JR.
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Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

April 24, 2008

Mike Brown
Graymont Western US Inc.
3950 South 700 East, Suite 301
Salt lake City, Utah 84107

Subject: Initial Review of Big Sage Project, Graymont Western U.S. Inc., Cricket Mountain Quarry, M/027/006, Task #1826, Millard County, Utah

Dear Mr. Brown:

The Division has completed its review of your amendment to the Notice of Intention (NOI) to Commence Large Mining Operations for the Big Sage project, submitted December 18, 2007. The Division has determined this change to the NOI to be a revision, requiring public notice. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed below under the applicable Minerals Rule heading. Send replacement pages of the original notice **using redline and strikeout text** and indicate how these are to be incorporated into the current approved plan using Form-MR-REV-att found on the Divisions web page or replace the entire document. After the notice is determined technically complete you will be asked to send us two final clean copies, one will be returned.

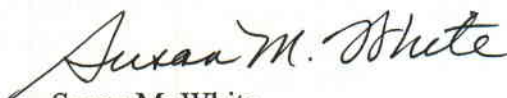
The Division requests that submittals are made according to the following format. Notices and changes should be three hole punched, maps folded and placed in a plastic 8 ½ by 11 sleeve, and binders provided for new notices, revisions, applications, or other changes of 30 pages or more (binders need only be provided once). An additional electronic copy is appreciated. You may request some proprietary information relating to the location, size, and nature of the mineral deposit to be kept confidential. Confidential information must be clearly marked and provided in a separate binder.

The amendment includes some cultural resource information, but it is very difficult to compare the maps in the cultural resource survey reports and the maps in the plan and determine what areas were surveyed in relation to the areas proposed to be disturbed. According to the State Historic Preservation Officer (SHPO), the Cricket Mountains are known for relatively high site density. Have all of the proposed disturbed areas been surveyed? If so, which significant sites are within the proposed disturbed area. If the proposed disturbed areas have not been surveyed, the Division recommends that surveys be conducted and the potential effects on cultural resources determined.



If you have any questions in this regard please contact me, Tom Munson, Paul Baker or Beth Ericksen of the Minerals Staff. If you wish to discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

A handwritten signature in cursive script that reads "Susan M. White". The signature is written in dark ink and is positioned above the printed name and title.

Susan M. White
Mining Program Coordinator
Minerals Regulatory Program

SMW:tm:pb

Attachment: Review, Form MR-REV-att

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**INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING
OPERATIONS**

**Graymont Western U.S., Inc.
Big Sage**

**M/027/0006
February 22, 2008**

R647-4-104 - Operators, Surface and Mineral Ownership

Please provide the following information:

1. The name, permanent mailing address, and telephone number of the surface landowner(s) and mineral owner(s) of all land to be affected by the operations.
2. The federal mining claim number(s), lease number(s), or permit number(s) of any mining claims, or federal or state leases or permits included in the lands affected.(TM)

R647-4-105 - Maps, Drawings & Photographs

- 105.1 Topographic base map, boundaries, pre-act disturbance
- 105.2 Based on submitted maps, the Division assumes the permit area is equal to the bonded area. (BE)

Figure 2, please label the road called, "The Big Sage Access Road" (BE)

Figure 3 shows the facility area disturbance as 58.5 acres, but spreadsheet B indicates 45.6 acres are disturbed. Please ensure consistency, or explain the parameters for determination more clearly. (BE)

- 105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

3.15 The plan does not clearly show all the hydrologic designs and features to be incorporated into the plan. Please update the figures to show the location of swales, culverts, and drainages. (TM)

3.16. The Division requests that you submit watershed maps and the supporting calculations that verify the size of the pond and the proposed diversions. These calculations need to apply to both the operational status of the mine and the reclaimed status. The plan states that

the diversions and pond are sized to handle a 25 year-24 hour storm but no calculations are presented, except that the 25 year-24 hour storm is mentioned as being 2.31 inches. (TM)

3.17 The reclamation treatments map does not show the following requested Aug. 20, 2007 information: On another reclamation map show the location of culverts, power lines, pipelines, deleterious storage sites (with dimensions), water storage, location of concrete rubble, and show the conveyor labeled by section. In addition, ensure there is an appropriate legend and identify the contour elevations. (BE)

The reclamation treatments map(s) should show the berms, evaporation ponds, and diversion ditches as mentioned on page 32 of the draft plan. (BE)

3.18 Show on Figure 5 (or in a new figure), a geology layer is necessary as there may be a slide potential in the footwall shale layer. (BE)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.
There is indication that the waste piles will be accessed via benches. Some of the 25-ft. bench face width may be lost due to the 90° bench face angles and access may become impaired. Please explain how bench face widths will be maintained subject to impaired widths and still allow for equipment access. (BE)

106.3 Nature of materials mined, waste and estimated tonnages
Is dumped overburden a source of rockfall? *This comment is in direct response to the following Aug. 20 Division review question: Provide information about the intersection area between the quarry areas and the stockpile areas. Address how stability will be maintained between them?* (BE)

Provide information and outline the limiting factors regarding the bench width range in the quarries. (BE) Graymont response: minimum bench face widths are dictated by equipment operating requirements. Division response: Backbreak of 90° bench face angles could impair bench widths. Minimum bench widths are required for equipment and rockfall protection. (BE)

106.5 Existing soil types, location, amount

106.6 Plan for protecting & redepositing soils

Section 2.3.7 says topsoil stockpiles will be seeded with the same interim seed mix as used on the Poison Mountain Quarry stockpiles, but the Division was unable to find this mix in the current plan. Please include a seed mix for interim stabilization of topsoil stockpiles or reference the location of this mix in the current plan. (PBB)

According to Table 4-2, no soil will be salvaged from the facilities area. Why is this? It appears to be all or mostly in the Sanpete-Sparger Soil Association, and there is likely to be soil available. (PBB)

- 106.7 Depth to groundwater, extent of overburden, geology
Please show and/or define well location. (BE)

R647-4-109 - Impact Assessment

There is a plan statement located on page 20 of the draft that indicates the mine will operate according to MSHA regulations. It is important for the operator to know that mining operations must be performed and operation design must accomplish the requirements of the Utah Mined Land Reclamation Act.

- 109.1 Impacts to surface & groundwater systems

The watershed map, figure 7 is of too large a scale to show watershed boundaries. In order that the Division accept this plan it is required that the boundaries of the contributing watersheds and the resulting drainage and impacts be clearly shown. Figure 7 fails to clearly show all these boundaries as the figure does not show a large enough area or provide all the drainage boundaries and contributing watershed areas. Diversion ditches, berms, swales, and ponds are identified without any engineering detail in the plan. Please provide this detail. (TM)

On page 25 of the draft NOI, a sentence reads, "Surface waters will be managed to avoid excessive sediment loading and run off outside the project area". The Division assumes the project area is equal to the permit area, if that is the case, designs must be such that sediment from the disturbed areas is controlled. It is considered a violation if uncontrolled sediment flows outside of the permit area. (BE)

Is the 280-ft groundwater depth the minimal groundwater depth? When was this depth to groundwater determined, including time of year? Where was it measured? Have seasonal variations been recorded? (BE)

According to Figure 7, several ephemeral streams will be impacted by mining operations. The plan states, "no impacts to surface water resources are projected" which is in direct conflict with what is shown on the Conceptual Storm Water Management Map. (BE)

Further to the above comment, the streams beneath the central and north waste pile will be impacted among others. The central pile, NW location appears to impact water flow and

a water impounding basin may occur. The north overburden pile toe is located within an ephemeral stream which will increase bedload which is in direct conflict with the "no impacts" comment. (BE)

109.2 Impacts to threatened & endangered wildlife/habitat

109.3 Impacts on existing soils resources

The plan narrative indicates that explosives, explosive packaging are handled according to federal and state requirements or according to manufacturing requirements. Do these requirements outline operator/worker safety only? Or do they include provisions to ensure environmental impact is minimized? If they don't, please specify and outline how they will be managed. (BE)

109.4 Slope stability, erosion control, air quality, safety

AIR QUALITY

Provide a copy of the Air Quality Approval Order as an appendix to the plan including the dust control plan. If there are specific emissions requirements for any equipment, please provide a list of that equipment. This information is helpful to ensure air quality requirements are met (BE)

EROSION CONTROL

On the reclamation treatments map please show the areas that are projected to have accelerated erosion and will be contour furrowed. (TM)

Provide berm dimensions, or a copy of the MSHA regulation for berm design. Does MSHA have a berm regulation for berm design for an environmental application? It is assumed there would be a typical MSHA design berm requirement for haul roads or any location where a worker is operating. What style of berms will be used? Provide dimensions. See surety section and update if required. (BE)

STABILITY

It is unclear if the bonded area is equal to the permit area. The Division assumes the permit area and the bonded area are the same unless there is phased mine plan. Therefore, there is concern regarding stability associated with the central overburden/fines pile in the west and east Graymont fee land border. According to the submittal, some of this area will not be revegetated, and stability may be compromised. If slope failure occurs, it will impact adjacent land. A set back may be required. This comment is related to Division comment made per previous Division review 106.9. If the buffer zones exists

it is not apparent. Show the buffer zone(s) on a map and provide narrative indicating the footage. (BE)

Some Mining operations will result in vertical bench faces, how will they be maintained? If sloughing/failure occurs, the bench widths will be impacted. Can a minimum of 25 ft bench widths be maintained at all times with vertical bench face angles? (BE)

The NOI draft narrative on page 27 indicates there are "appropriate mitigation measures in place to minimize impacts". The rules specifically require that the impact mitigation measures are defined. The draft statement is too vague. (BE)

109.5 Actions to mitigate any impacts

Recommendation:

The R647 rules do not mention impacts to species other than those listed as threatened or endangered, but it appears the nests of some non-listed, protected bird species might be in the area proposed for disturbance. Map 4 within the report titled "Biological Survey for the Proposed Iron Basin Quarry, Millard Co., Utah" shows the locations of nests, but it is impossible to correlate this map with the maps showing the disturbance area. Protection of these nests is not required under the Mined Land Reclamation Act, but it is required under other laws, such as the Migratory Bird Treaty Act and the Bald Eagle Protection Act. The plan does not need to include protection measures, but the operator needs to coordinate its activities with the Fish and Wildlife Service. (PBB)

R647-4-110 - Reclamation Plan

General Comments: Please elaborate on the comment, "Reclamation and closure of the disturbance areas will be similar to that of the Cricket Mountain Mine" It may be necessary to identify and point to the information about Cricket Mountain reclamation and closure plans that apply to the Big Sage project. Please be specific and include reclamation information according to R647-4-110.2. (BE)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Please provide the location of the reclaimed swale mentioned on page 33 of the plan and its contributing watershed. (TM)

There is a comment made that reclamation will occur in such a way that drainages will be stable. However, the plan intercepts flow in many drainages. The plan should more specifically define how the overburden pile is designed in such a way that its stability will not be affected by these intercepted water courses. The plan does outline overburden pile design to control run off. (BE)

110.5 Revegetation planting program

The plan says seed would be broadcast or drilled depending on conditions, but forage kochia should always be broadcast seeded. Please change the plan accordingly. (PBB)

Figure 9 shows some areas where no revegetation will be done, and Section 4.6.3 says slopes of the overburden/fines piles that are recontoured to an angle safe for equipment will be covered with a layer of soil and seeded.

This appears to be a variance, and the plan needs to include either a variance request with adequate justification or it needs to show why this is not a variance. If the overall site, including these unvegetated areas, will have 70 percent of the premining vegetative cover, then no variance request is needed. If a variance is requested, it will need to show the variance requested and the area that would be affected, justification for the variance, and alternate methods or measures to be utilized. (PBB)

Recommendations:

The revegetation monitoring reports indicate that Siberian wheatgrass is present in reclaimed areas even though it was not seeded (unless it was a contaminant with crested wheatgrass). Siberian wheatgrass is very drought tolerant and competes well with cheatgrass, and the Division recommends that it be included in the seed mixture at a rate of about two pounds PLS/acre. The recommended variety is Vavilov II. (PBB)

Another grass that should do well in this environment is "Secar" Snake River wheatgrass (formerly identified as Bluebunch wheatgrass), and the Division recommends including this species at a rate of about one or two pounds PLS/acre. This species is also very drought tolerant and competes well with cheatgrass. (PBB)

R647-4-112 – Variance None requested

R647-4-113 – Surety

General: It is helpful to provide a surety narrative in addition to the spreadsheets that includes assumptions and thoughts. In addition, each reclamation category can be fully explained in the narrative. (BE)

How many of the 'bonded' acres are on state lands? (BE)

Spreadsheets:

Please define contour/regrade. There are no costs associated with this effort, and it is assumed this is a typical component of earthwork. (BE)

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When referring to RS Means as a cost source, please refer to the title and edition of the MEANS book. In the case of RS Means 017413.200040 located on the Reclamation Cost Summary, state "Site Work & Landscape Cost Data, 26th edition" (BE)

The surety calculation spreadsheet does not match the assigned alpha system in the summary spreadsheet, reclamation cost summary (rcs). For example, the rcs references E, F, G and those spreadsheets are not included in the Dec. 2007 submittal. There is one spread sheet that has alpha references A-F that may be considered 'miscellaneous', but without the proper reference and identification, it is unknown. (BE)

Within each reclamation category there should be a breakdown that shows the specifics within the category. It is helpful to maintain consistency regarding word choices. For example, map #6 labels topsoil stockpile and facilities area, then spreadsheet B refers to this area as yards and stockpiles. This information may be apparent if there was a narrative that outlined the process behind the content of each category. (BE)

Graymont indicated the word 'resoil' was changed to 'topsoil replacement', but the word is still used throughout the spreadsheets. (BE)

Spreadsheet B indicates there is 2-feet of fill over 5-acres of the facility area. This area is shown on Map #6. A solid and hazardous waste permit may be required. (BE)

Because spreadsheet B identifies the facilities area, it is important to asterisk and provide notation about the location of the costs associated with the facility demolition/removal. (BE)

There does not appear to be a spreadsheet dedicated to facility removal/demolition. Subpart (A) on unnamed spreadsheet, refers to Structure Demolition and Disposal Facility, but appears to be incomplete. (BE)

Please explain why there is no contouring or regrade in the facility and topsoil areas. What is the elevation variation? What is the final grade? (BE)

Figure 3 shows the facility area disturbance as 58.5 acres, but spreadsheet B indicates 45.6 acres are disturbed. Please ensure consistency, or explain the determination parameters more clearly. This comment is a repeat. (BE)

Division August 2007 comment: Spreadsheet C indicates there is no contouring in the quarry area. Please provide explanation regarding how the quarry areas blend with the surrounding topography without any contouring. Seeding is shown on 131 acres, and the quarries comprise of 391.7 acres, the Division expects revegetation of the entire area unless a variance is granted. (BE) Graymont has indicated that bench faces will not be seeded. It is expected the revegetation success is achieved when 70% of the premining vegetative cover will occur. How will you meet this requirement and not seed the bench faces? A variance may be required. (BE)

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Although spreadsheet E is not included, please ensure there is verbiage clarification in the spreadsheet to develop understanding of what is meant by 'maintenance' 'percentage of total disturbance'. Graymont's comment indicated that it is expected that 10% of the revegetation will fail, and a subsequent seeding is necessary. Please ensure a clarification of this intent is made. Please include costs for second seeding. (BE)

If the basis for the 10% maintenance is professional experience, please provide that information in spreadsheet E. (BE)

Please ensure spreadsheet E indicates/states that removal of conveyor will be performed by a purchaser. (BE)

There is comment by Graymont that spreadsheet shows infrastructure removal costs. This information is unclear. Please provide specific direction to its location. If the information is not included, please add. If it is included, please ensure it is complete. (BE)

The spreadsheet berm dimensions to result in a small berm design. Please explain and/or justify the reasons they will be effective. (BE)

Please assist in pointing out spreadsheet location that includes costs associated with the implementation of berms, storm water diversion ditches, and evaporation ponds at reclamation. It appears to be located in spreadsheet "SUMMARY". It is helpful to provide enough detail in the spreadsheet titling to increase transparency and clarity. (BE)

Division comment from prior review: Removal and disposal of hazardous materials should be included.

Graymont reply: transport of waste oil from the site to the plant as per the current practice at the other Cricket Mountain project has been included in spreadsheet E.

Division reply: Spreadsheet E is not included in the submittal. (BE)

Per the above comment, this comment applies to several other Graymont responses to the Division's review. Please check over your responses and ensure all the stated information is included in the specified spreadsheets. (BE)